ALBERTA OIL & GAS INDUSTRY QUARTERLY UPDATE

SPRING 2016

Reporting on the period: Dec. 18, 2015 to Mar. 4, 2016

All about oil and gas

While Alberta and its petroleum sector have endured the hurt of sinking world crude oil prices and continued weak natural gas prices, the province is well positioned to rebound once the cyclical nature of commodity prices eventually recalibrates.

In fact, technological advancement has set the stage for future growth in Alberta's non-oil sands oil and natural gas industry. Until the turn of the last decade, the sun had slowly been setting on Alberta's conventional oil and natural gas industry. Oil production had declined from a peak of 1.43 million barrels per day (bbls/d) in 1973 to a low of around 460,000 bbls/d in 2010.

But things, low commodity prices notwithstanding, have changed for the better, as increased implementation of long horizontal wells and multistage fracturing in tight oil plays across the province—not to mention attractive provincial royalty incentives to encourage drilling—have allowed industry to extract crude from resource bases that had previously been essentially untapped.

In fact, the tight oil revolution that began in the U.S. gradually moved north into Alberta, marking the dawning of a new day for oil and natural gas exploration and production in the province.

In Alberta, the technology is being used in an increasing number of oil plays. Among the most advanced plays are the Cardium in west-central Alberta, the Beaverhill Lake Carbonates near Swan Hills and the Viking in east-central Alberta.

More importantly, emerging liquids-rich plays like the Montney and Duvernay shale show great promise. In fact, the Duvernay play may have the most potential going forward.

Although drilling activity has slowed given the current commodity price environment, many producers are still reporting strong results and liquids yields from their Duvernay and Montney programs.

The Duvernay is often compared to the prolific Eagle Ford of Texas because they are both shale plays that offer a full spectrum, from dry gas through liquids-rich gas to oil. Many other shale plays, such as the Horn River Basin in B.C. and the Marcellus or Barnett south of the border, are much more gas-focused.

In terms of the potential size of the play area, the richness of the source rock and even some of the early production results, the Duvernay "is well on its way to being as big or bigger than the Eagle Ford," Canadian Discovery has proclaimed.

The increase in horizontal drilling activity is expected to offset the steep decline in Alberta conventional production that would otherwise be expected.

The Alberta Energy Regulator estimates the remaining established reserves of conventional crude oil in Alberta to be 1.8 billion barrels, representing more than one-third of Canada's remaining conventional reserves. This increase of 1.6 per cent over the 2013 estimate is from all reserve adjustments less production in 2014.

The province's production of conventional crude oil totalled 215 million barrels in 2014, an increase of 1.3 per cent.

The province is also the largest contributor to Canadian oil and equivalent production and is the only contributor of upgraded and non-upgraded bitumen, which are the marketed components of raw bitumen production.

Alberta is Canada's largest producer of marketable natural gas. In 2013, Alberta produced 69 per cent of Canada's total production, down from 70 per cent in 2012.

In 2014, total marketable natural gas production in Alberta, including unconventional production, increased by 2.3 per cent to 287.3 million cubic metres per day from 280.9 million cubic metres per day.

Canada is the third-largest natural gas producer in the world, with the majority of the country's gas being produced in Alberta. According to provincial figures, at the end of 2012, remaining established reserves of conventional natural gas stood at 33 trillion cubic feet (tcf), while remaining established coalbed methane gas reserves stood at 2.4 tcf. The province estimates the remaining ultimate potential of marketable conventional natural gas at 74 tcf.

Although conventional natural gas remains a very important part of Alberta's natural gas supply, horizontal drilling and multistage fracturing now allow for development of natural gas from a new source—unconventional natural gas resources. ■

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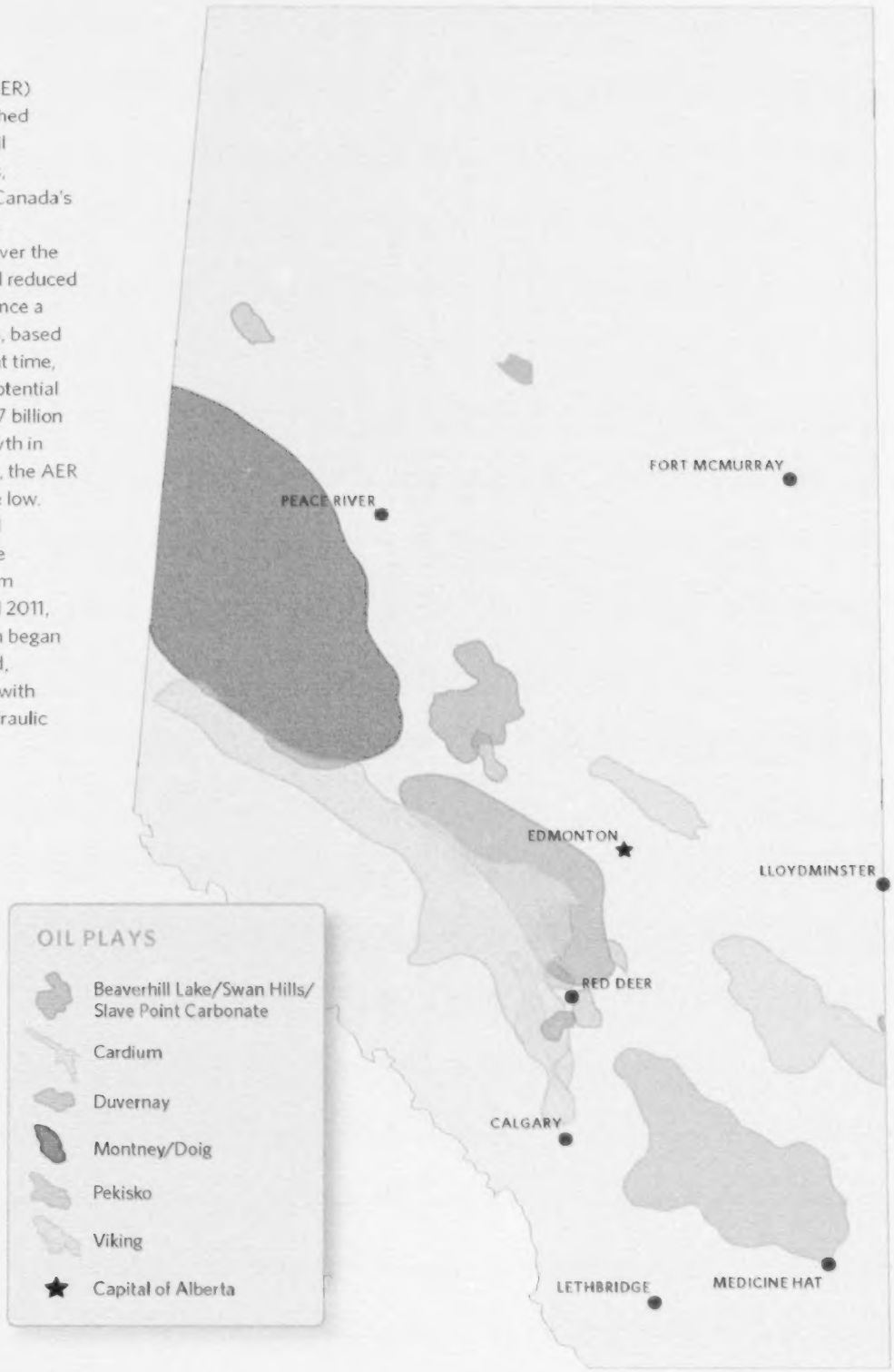
NOTE: This publication contains information about Alberta's oil and gas industry, excluding the oil sands. For information on the oil sands, please refer to the *Alberta Oil Sands Industry Quarterly Update* on this website.

OIL PLAYS

The Alberta Energy Regulator (AER) estimates the remaining established reserves of conventional crude oil in Alberta to be 1.8 billion barrels, representing about one-third of Canada's remaining conventional reserves.

Though the pace has slowed over the past year due to low oil prices and reduced activity, it's expected to resume once a market correction occurs. In 1994, based on the geological prospects at that time, the AER estimated the ultimate potential of conventional crude oil to be 19.7 billion barrels. Given recent reserve growth in low permeability, or tight oil plays, the AER believes that this estimate may be low.

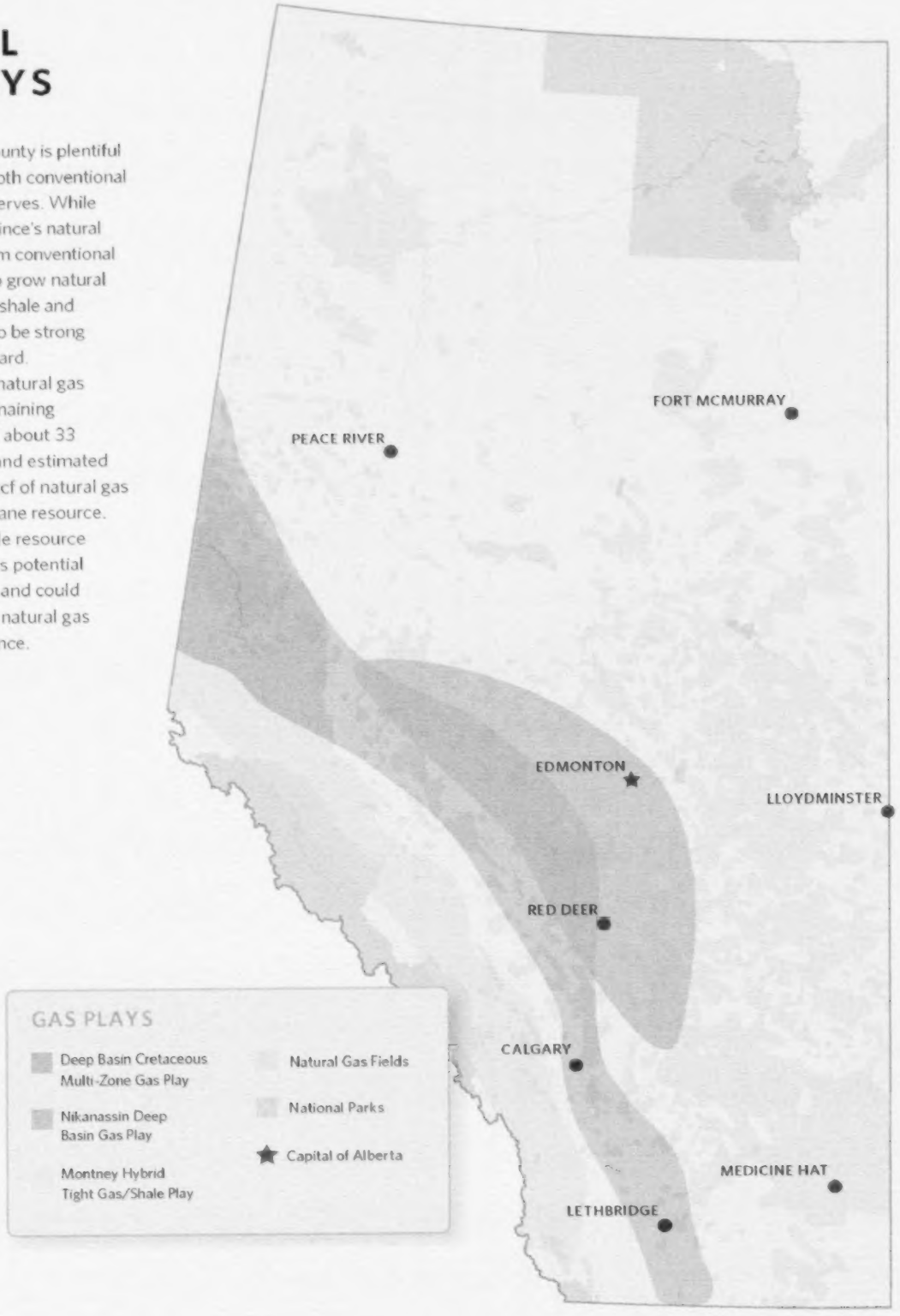
Starting in 2010, total crude oil production in Alberta reversed the downward trend that was the norm since the early 1970s. In 2010 and 2011, light-medium crude oil production began to increase as a result of increased, mainly horizontal, drilling activity with the introduction of multistage hydraulic fracturing technology.



NATURAL GAS PLAYS

Alberta's natural gas bounty is plentiful and is produced from both conventional and unconventional reserves. While the majority of the province's natural gas is still produced from conventional sources, the potential to grow natural gas volumes from coal, shale and tight formations will also be strong contributors going forward.

Alberta has a large natural gas resource base, with remaining established reserves of about 33 trillion cubic feet (tcf) and estimated potential of up to 500 tcf of natural gas from the coalbed methane resource. In addition, a large-scale resource assessment of shale gas potential in Alberta is underway and could significantly add to the natural gas prospects for the province.



GOVERNMENT UPDATE

Alberta Government

PREMIER NOTLEY'S STATEMENT ON ALBERTA NEB SUBMISSION SUPPORTING TRANS MOUNTAIN PIPELINE

In mid-January, Premier Rachel Notley wrote to the National Energy Board in support of Kinder Morgan's proposal to expand capacity of its Trans Mountain Pipeline transporting Alberta crude to the B.C. coast for export.

"Our government believes this project is good for Albertans and good for all Canadians. It will create jobs, spur economic growth, and help fund our province's transition to a greener, less carbon-intensive economy on many levels," Notley said.

"There is significant interest in this project. Our colleagues in British Columbia have restated their position that they want their five conditions met before they will lend their support to this pipeline expansion.

"We encourage Kinder Morgan to continue working with the federal government and the government of British Columbia on these issues. I believe there is a path forward for this pipeline to get approved, but this path forward is not the same failed path Conservative governments have chosen and continue to choose.

"We will not get pipelines built by picking fights with other provinces through the media. And we will not get pipelines built by refusing to take action against global warming. We will get pipelines built by working collaboratively with other jurisdictions and having drama-free discussions about pipelines based on their merits."

Notley said that Alberta's recently announced climate leadership plan will help the province realize new market access projects for the oil industry.

"Our climate leadership plan gives Alberta the opportunity to show the world that we can combat climate change while also protecting the good, mortgage-paying jobs of our oil and gas industry."

HISTORICALLY LOW OIL PRICES AND DECLINING REVENUE IMPACTING THIRD-QUARTER RESULTS

Alberta faces a significant budget shortfall as oil prices continue to collapse to the lowest levels in more than a decade, causing a substantial hit to government revenue.

The oil price collapse has significantly impacted Alberta's resource and personal income tax revenue streams. Prudent financial management, including the re-profiling of some ➤

GOVERNMENT UPDATE CONTINUED

projects and bringing expenses in line with the province's new economic reality, has helped the province mitigate some of the effects of the oil price shock this fiscal year.

Total revenue for 2015-16 is forecast to be $43.1 billion. This is $660 million lower than estimated in the 2015 budget, due primarily to a reduction of $762 million in personal income tax revenue and a $294-million net decrease to resource revenue. Total expense is forecast to be $49.4 billion to $463 million lower than anticipated at budget.

CLIMATE LEADERSHIP PLAN WILL PROTECT ALBERTANS' HEALTH, ENVIRONMENT AND ECONOMY

Alberta's Climate Leadership Plan accelerates the transition from coal-fired power plants to more renewable energy and natural gas power, puts a price on carbon pollution for everyone and sets emissions limits for the oil sands.

Other measures include broad programs to improve energy efficiency, support green technological innovations, reduce methane, and provide support to protect families and small businesses.

The plan is based on the advice of the Climate Change Advisory Panel, led by Andrew Leach, which heard from thousands of individual Albertans and stakeholder groups this fall.

On the advice of leaders from our energy industry and from civil society, the government will legislate an overall oil sands emissions limit of 100 megatonnes, reducing carbon output per barrel, with provisions for new upgrading and co-generation. The government will also phase out pollution created by coal-fired electricity generation by 2030 and will implement a new methane reduction strategy.

One hundred per cent of proceeds from carbon pricing will be reinvested in Alberta, either invested directly into pollution-reducing measures such as clean-energy research, or invested in an adjustment fund that will help individual families and small businesses.

JOINT STATEMENT BY THE PRIME MINISTER OF CANADA AND THE PREMIER OF ALBERTA

In early February, Prime Minister Justin Trudeau and Premier Rachel Notley issued the following joint statement after their meeting in Edmonton:

"Canada works best when we all work together. Albertans are proud Canadians who have contributed enormously to the economic and social fabric of our country, and Canadians want to be there for Albertans in challenging times."

The three main areas of federal-provincial cooperation cited are jobs and the economy, clean growth and climate change, and energy infrastructure and market access.

The federal government is committed to fast-tracking infrastructure to support Alberta's long-term needs and create short-term jobs. "In addition," said the statement, "in response to a request from Alberta, the Government of Canada stands prepared to provide up to $250 million to the province in the form of an advance fiscal stabilization payment as a result of losses in natural resource revenue."

Both governments recognized that growing Canada's economy to attract investment and create jobs goes hand in hand with combatting climate change. The upcoming First Ministers' meeting looks to establish a pan-Canadian framework for reducing emissions.

The prime minister and premier pointed to Alberta's work in introducing its Climate Leadership Plan, which means "conversations about pipelines are now easier to have."

"We agreed that we must get these resources to market in responsible, sustainable ways that Canadians trust, based on robust environmental assessments and that contribute to greater investment and long-term economic growth and job creation."

THRONE SPEECH HIGHLIGHTS SUPPORTS FOR CHILDREN, JOB CREATION AND ECONOMIC DIVERSIFICATION

The Alberta government's spring agenda focuses on investment in children in low-income families, job creation and economic diversification.

A new child benefit plan will help 380,000 children living in low-income households, while government works to create new jobs and opportunities, build on traditional economic strengths, diversify markets and products, and increase accountability and responsible public fiscal management.

Highlights of the Speech from the Throne (full speech found here) include the government's agenda to:

- diversify energy markets;
- pursue a coherent and effective economic strategy;
- invest in a greener, more sustainable economy;
- take a responsible approach to public finances; and
- make democratic reforms to ensure accountability.

Says Premier Rachel Notley, "We are addressing the energy price shock with continued, focused efforts to diversify markets for our energy products with a new pipeline, major investments in infrastructure priorities and economic diversification, and help for families facing immediate hardship. We will do so in partnership with industry, other Canadian governments, Indigenous peoples, municipalities and all Albertans." ■

WHAT'S NEW IN THE OIL & GAS INDUSTRY

LONG-TERM STRATEGY ESSENTIAL, SAYS CHAIR OF ROYALTY REVIEW PANEL

Alberta needs a long-term strategy to help it find the right balance between renewable energy and fossil fuels, says the chair of the province's royalty review panel.

"I think there is an opportunity for us to be strategic as a province and really kind of figure out how we move forward," Dave Mowat said March 7 during a sold-out presentation to a Calgary Chamber of Commerce audience.

"A royal flush [in poker] is when you hold all the cards," the ATB Financial president and chief executive officer told Chamber members in his first public speech in Calgary since the government released the panel's report in late January.

"Renewables just require brains and investment, but nobody else has the fossil fuels, so if you combined, over the next 100 or 150 years, the ability to master renewable energy and to master fossil fuels, I think you have a royal flush," he said. "The last time I looked, that kind of beats everything."

If the province is going to shift its power generation to renewable energy, then natural gas will provide the baseload, significantly increasing gas demand, said Mowat, who said that it needs to think in terms of multi-decades. Gas also plays an important role in oil sands bitumen hydrocracking and SAGD, he noted.

Most people agree that the price of natural gas is going to be depressed for a long time worldwide, and while that's not good news for producers, it could provide the feedstock for a significant petrochemical complex in Alberta, Mowat suggested.

"We're not saying that is the answer; it's mostly that Alberta should have a strategy," he said. With the growth in U.S. domestic light sweet crude production from Texas and North Dakota, the province's strategy of shipping all of its crude to the U.S. via pipeline or railcar is going to have to change, according to Mowat.

Alberta is a long way from markets and has tough rocks and deep resources, the Chamber audience was told. To be successful in the future, "we need the most innovative, well-financed companies that we possibly can to be the stewards of that resource," said Mowat.

LENDERS STRIVING TO WORK WITH COMPANIES AS LOAN REVIEWS GET UNDERWAY

While Canada's major lenders to the country's oil sector seem to be remaining steadfast in attempting to work out mutually acceptable outcomes as spring loan review negotiations occur, the future of many in the hard-hit oilpatch remains uncertain.

That said, banks don't want bad loans on their books, and oil and gas companies, certainly, don't want to go insolvent. Brothers in arms during these most difficult of times? Perhaps.

Difficult times, it seems, call for difficult decisions and negotiations that will be somewhat unparalleled—on both sides of the equation.

Bruce Edgelow, vice-president of ATB Financial, said that lenders and their clients are "hunkering down" in an attempt to find solutions to a wide array of economic challenges as many companies continue to fight for survival.

"[Lenders] need to price risk, we need to risk rate it, we need to provision it. But we are all trying, on a shared syndicate basis or stand-alone, to stay the course and provide support through this. There [are] very few, quote, 'suitcase bankers' left in this space," he said.

"We're having dialogue through special committees and through full extensive loan groups on a regular basis. We're collectively trying to find our way through this," Edgelow added.

"The next 90–120 days are going to be critical for the patch. Who can make it through the next borrowing base review, where there's likely to be further downward revisions [on reserves], and how are people going to find their way through this?"

PROVINCIAL GOVERNMENT KEEPING A CLOSE EYE ON ENERGY EAST REVIEWS

It appears that the Quebec government is contemplating a review of TransCanada Pipelines' proposed Energy East pipeline project by its regulator to help inform its presentation to the National Energy Board, says Alberta Premier Rachel Notley.

That process is similar to the review of Energy East conducted by the Ontario government and the one by the Quebec government to review the Line 9 reversal, the Alberta premier told reporters following Quebec's announcement in early March that it had filed a motion in Quebec Superior Court to ensure that Energy East ➤

WHAT'S NEW IN THE OIL & GAS INDUSTRY CONTINUED

complies with Quebec environmental impact assessment and review procedures.

"However, we would be very concerned if this was in fact about a competing parallel process that requires projects crossing provincial lines to go through multiple hearings and multiple sets of conditions and formal consent from the federal government and from each local jurisdiction," said Notley. "If we ultimately determined that is what this is intended to turn into, then we will vigorously oppose it, and you will hear a great deal more from me on this," she said.

The Alberta premier confessed that she was getting ready to "come in here with guns blazing" after the Alberta government learned about the Quebec government's intention to take Energy East to court. However, after lengthy and very recent discussions with officials from Quebec, TransCanada and Prime Minister Justin Trudeau's office, Alberta appears to have a better understanding of what Quebec has in mind.

"In the meantime, I will simply keep my holster close at hand and who knows, we may see those guns blaze but that does not appear to be where we are at today," Notley said.

SERVICE AND SUPPLY SECTOR EVOLVING TO MEET NEW MARKET REALITIES

While there is no way to know for certain whether the new normal is a lower-for-longer oil price environment, companies that prepare will see the most long-term success, and those who innovate, diversify and become leaner will not only survive, but thrive, says a newly released report.

Innovation has to be at the forefront, the report's launch heard on March 10.

The *Service & Supply Outlook Report: Adapting to a lower-for-longer commodity market* was created by JWN and Grant Thornton LLP to gain an understanding of how service and supply companies are managing in the current downturn. (Click here to request a free digital copy of the report.)

They surveyed 545 service and supply sector leaders, surveyed service companies, conducted 40 interviews and held two workshops with combined attendance of 100 people in Calgary and Edmonton.

When oil and gas prices are high and the industry is making money, innovation is not essential, but with suppressed oil prices, it becomes a necessity to survive, Henry Chow, Grant Thornton's oil and gas services leader for Southern Alberta, told the launch.

"We heard this loud and clear from the interviews, surveys and workshops," said Chow, adding innovation is more than new technology—it's also cutting supply costs to ensure that companies are sustainable and can grow.

Bemal Mehta, senior vice-president of energy intelligence with JWN, noted that 33 per cent of organizations said that if low prices continue they will invest in sales and marketing.

"This was initially a counter-intuitive result, but then it starts to make a little bit of sense," he said. "Essentially, we're in an environment now where there is less business. You're going to have to seek out new markets."

CAPITAL SPENDING CONTINUES DOWNWARD TREND

To deal with the ongoing weakness in oil and natural gas prices, producers have continued to chop their budgets from original expectations, including some large operators.

For 47 producers announcing capital budgets for 2016 tracked by the *Daily Oil Bulletin*, planned spending has been cut by $2.38 billion to $12.2 billion from initial spending plans of $14.58 billion.

In 2015, for the 80-plus producers tracked by the DOB, the collective spend was $37.2 billion, off about $13 billion from the $50.2 billion that they initially planned to spend as operators reset budgets due to prices that continued to slide during the year.

The largest reduction on the list came from Husky Energy, which aggressively clawed back its 2016 production and capital spending guidance and suspended its monthly dividend. Spending for this year was lowered about $800 million to a range of US$2.1 billion to $2.3 billion from a previous range of $2.9 billion to $3.1 billion. Savings will be achieved primarily through deferring discretionary activities in western Canada.

In one of the most dramatic spending cuts by a major producer, Penn West Petroleum set its 2016 capital budget at $50 million.

This compares with an initial 2015 budget of $840 million, which was later reduced to $500 million, and a staggering $1.82 billion in 2011 under previous management amid a spending spree that saddled the company with crippling debt.

Actual spending last year by Penn West is estimated at roughly $480 million. ■

TECHNOLOGY UPDATE

CONTINUOUS INNOVATION IS KEY TO OILPATCH FUTURE: PANELLISTS

Innovation involves a lot more than new technology, said speakers at a recent digital oilfield event held in Calgary.

It is also about changing procedures, adapting logistics and finding various other new ways of thinking, acting and organizing that may not necessarily involve development of a product.

"One of the fascinating things I see with this data renaissance we are entering into is, for example, innovation and policy making," said Chris Holly, executive director of technology with the Alberta Department of Energy. "Thinking about it from a government's perspective, [the government] has to develop policy, but how does it get and vet that information? How does it understand the probabilities? How does it understand which way it could go?"

He added: "Innovation is not just technology research. It is a new way of looking at things, and it is a new practice. It is a new way of seeing an outcome result. It may be a technology, it may be a way of thinking, it could be an organizational change, and it could be a whole bunch of things."

Speaking as part of a panel discussion, Holly said innovation must occur continuously for companies and industry to succeed because "innovation itself is forward looking." He suggested that if companies have surplus profits one year, they should consider putting some of that money aside for a downturn to allow continuous spending on innovation and technology development.

Subodh Gupta, chief of research and development at Calgary-based Cenovus Energy, said if a company was to change its technology for oil recovery, as an example, then that would be a lengthier process requiring non-stop investment, regardless of industry cycle. "That is why we have to continuously and way in advance invest thought and efforts into processes or into chains for that technology. Cenovus definitely does that."

He added: "In times like these, it is incumbent and even necessary to innovate in order to solve some of the challenges.... It becomes a bit difficult to invest in innovation during tough times, and so you have to be innovative in the ways you innovate. One of the ways to do that is with enhanced collaboration."

ALBERTA'S CARBON LEVY DRIVES RENEWABLE FUEL INNOVATION TO DIVERSIFY ECONOMY, CREATE JOBS AND REDUCE EMISSIONS

Alberta's price on carbon is resulting in an investment to transform plant oils into renewable transportation fuel manufactured in Alberta.

Edmonton-based SBI BioEnergy has developed a technology that reduces greenhouse gas emissions by creating a renewable fuel that is virtually indistinguishable from diesel. Using revenue from the price Alberta's large emitters pay for releasing greenhouse gases, the Climate Change and Emissions Management Corporation has earmarked a $10-million contribution for SBI to build a $20-million facility to continue this work.

"We are putting Alberta's current carbon levy to work—diversifying our economy, creating jobs and reducing greenhouse gas emissions. This project is an example of the kind of local innovation that will help position Alberta as a global leader in renewable energy under our Climate Leadership Plan," said Premier Rachel Notley.

Dr. Inder Singh, president and CEO, SBI, said provincial support and innovation investment have made the difference in allowing the company to demonstrate its ability to produce clean, sustainable fuels at a large scale.

"When we move to full production, it will mark a turning point for Alberta. Instead of having to import renewable fuels for blending with conventional fuels, we will be able to refine these right here at home at relatively low cost," he said.

With this investment, SBI will be able to produce 10 million litres of renewable diesel fuel annually. The project will generate 35 jobs in the Edmonton region and have an estimated greenhouse gas emissions reduction of more than 112,000 tonnes by 2020—the equivalent of removing 23,000 cars off the road for one year. ■

LABOUR UPDATE

OIL SANDS SECTOR WORKFORCE REQUIREMENTS TO SHIFT FROM GROWTH AND EXPANSION

A shift in Alberta's oil sands sector from growth and expansion to improving the reliability and performance of existing operations will have long-term impacts on the sector's workforce requirements, says a new labour demand outlook.

By 2020, the growth of 5,170 operations workers (up 17 per cent from 2014) and 4,700 ongoing maintenance workers (a 38 per cent increase) will largely offset the decrease of 10,305 (an 84 per cent drop) in on-site construction jobs, according to the PetroLMI study.

The report, *Oil Sands Construction, Maintenance and Operations Labour Demand Outlook to 2020*, estimates that by 2020 a total of 54,145 direct construction, ongoing maintenance and operations workers will be employed in the oil sands sector, a decrease of approximately one per cent over 2015.

The study provides insight into the impact of 2015 spending and production forecasts on longer-term hiring requirements in the oil sands sector.

The oil sands sector delayed, deferred or cancelled a number of projects in 2015, with a 30 per cent reduction from record capital spending of $35.7 billion in 2014, and is not expected to recover before 2020, the report noted. As a result, demand for future on-site construction labour has been significantly reduced with spending focused on completing projects that currently are under construction.

At the same time, however, production from the oil sands sector will continue to grow across mining, in situ and upgrading operations from projects that are either in the late stage of construction or have recently transitioned into operations. "There are always going to be jobs just to keep the plants running," Emma Monaghan, project manager, said in an interview.

Although overall workforce requirements for the oil and gas industry have been severely affected by a reduction in investment, hiring is expected to continue to 2020 as substantial capital has already been invested in large-scale oil sands projects, according to Carol Howes, vice-president of communications and PetroLMI, with Enform.

"What remains to be seen, as on-site construction of major projects winds down towards the latter half of the forecast period, is the impact of lower oil sands capital investment on production and jobs after 2020."

JOB CREATION AND ECONOMIC DIVERSIFICATION A PRIORITY LEADING INTO BUDGET 2016

Economic diversification, job creation and strong family supports dominated the conversation at a recent Budget 2016 town hall hosted by Alberta's premier and finance minister.

Premier Rachel Notley and President of Treasury Board and Finance Minister Joe Ceci spoke with Albertans during the town hall in Fort McMurray and discussed challenges facing the northern Alberta community as the province continues to face the steepest and most prolonged slide in oil prices in recent history. Albertans from across the province also joined the conversation online, where they had the opportunity to ask questions throughout the event.

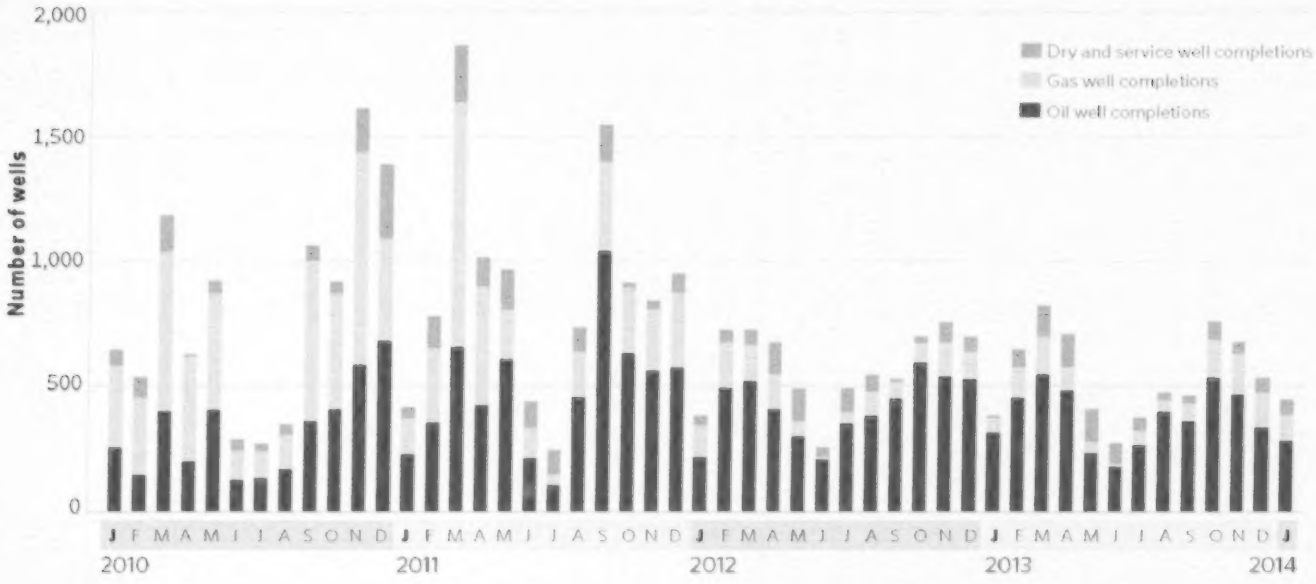
"Today we heard about the personal impact of sustained low oil prices on Alberta's families. The enormity of this once-in-a-generation challenge is most apparent in communities like Fort McMurray, where economic success is tied so closely with oil development. This underscores the urgency of our efforts to diversify Alberta's economy as part of our economic action plan," Notley said.

Fort McMurray residents were invited to discuss their concerns in person with the premier and the finance minister. They were joined by Albertans who tuned in to the live-streamed broadcast. Discussion from today's event will help inform Alberta's 2016 budget.

"Difficult times continue to lie ahead for the province as we head into Budget 2016. Our government has a plan to help Albertans weather the storm by deploying all the tools at our disposal, including aggressive infrastructure investment, making capital available to small- and medium-sized businesses through ATB Financial and using the Heritage Fund to invest in Albertans and their jobs," Ceci said. ■

OIL & GAS STATISTICS

ALBERTA WELL COMPLETIONS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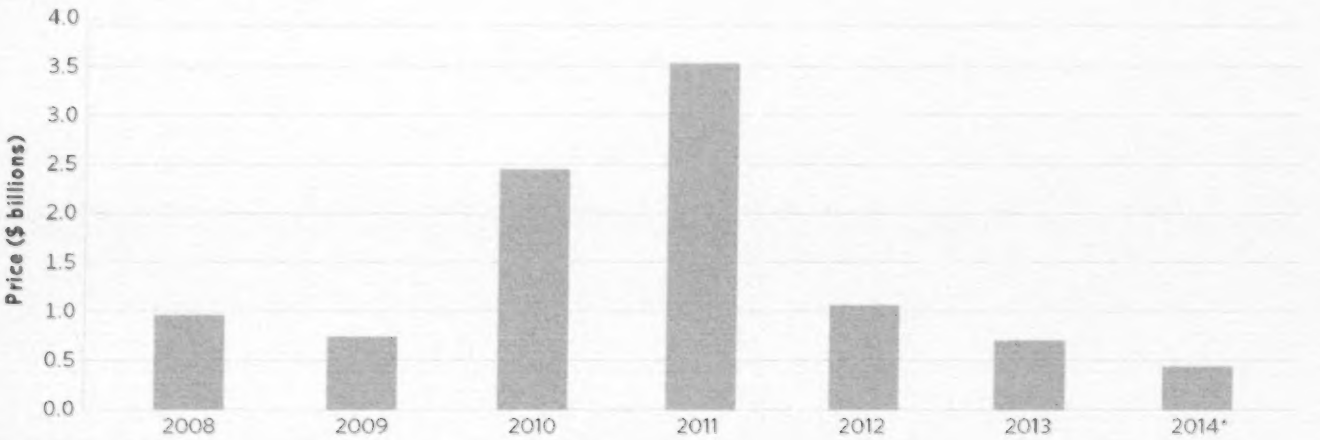
ALBERTA CROWN LAND SALES

Petroleum and natural gas rights, excluding oil sands



STATISTICS CONTINUED

DRILLING RIG COUNT BY PROVINCE/TERRITORY
March 15, 2016

	ACTIVE	DOWN	TOTAL	ACTIVE
Western Canada				(Per cent of total)
Alberta	48	414	462	10
Saskatchewan	5	113	118	4
British Columbia	24	53	77	31
Manitoba	0	12	12	0
WC total	**77**	**592**	**669**	**12**
Eastern Canada				(Per cent of total)
Quebec	0	1	1	0
Canada total	**77**	**593**	**670**	**11**

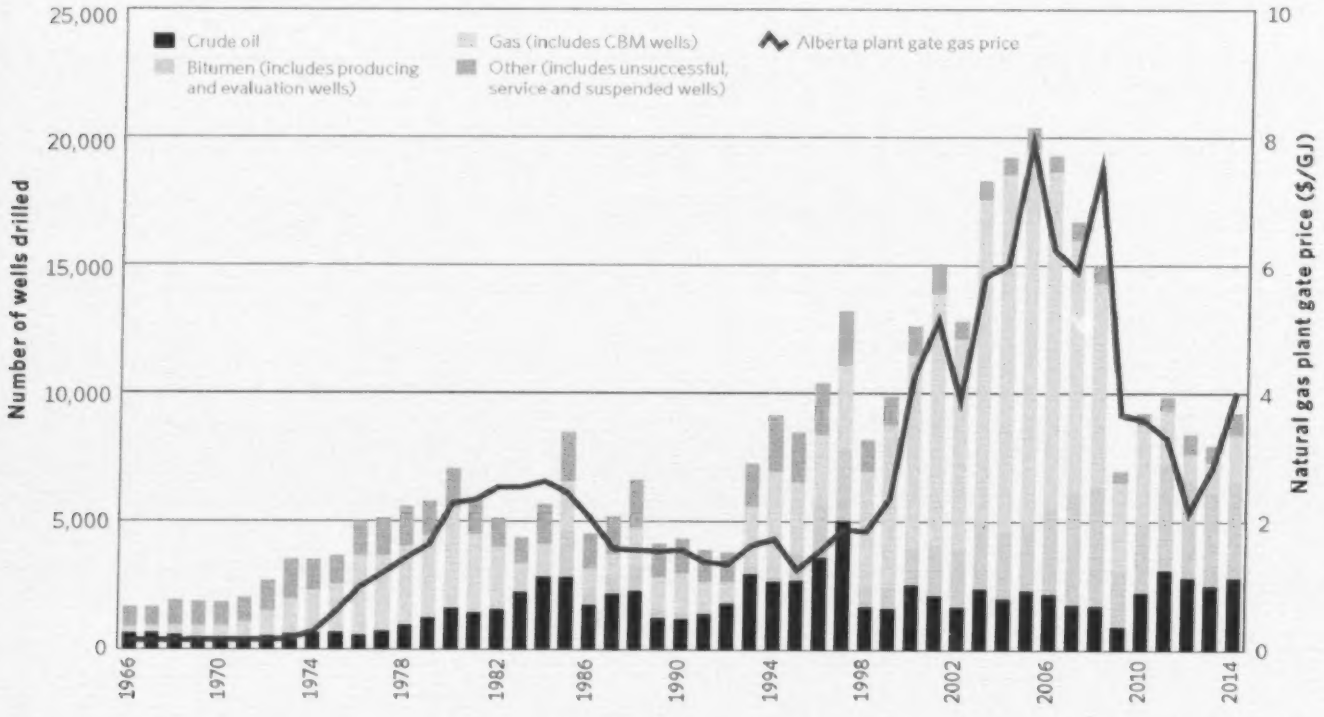
Source: IWH

OIL AND GAS WELL COMPLETIONS BY PROVINCE
March 2016

	OIL WELLS		GAS WELLS	
Western Canada	**MAR '15**	**MAR'16**	**MAR'15**	**MAR '16**
Alberta	146	32	166	65
British Columbia	6	2	54	26
Manitoba	16	3	0	0
Saskatchewan	149	5	0	0
Total	**317**	**42**	**220**	**91**

Source: IWH

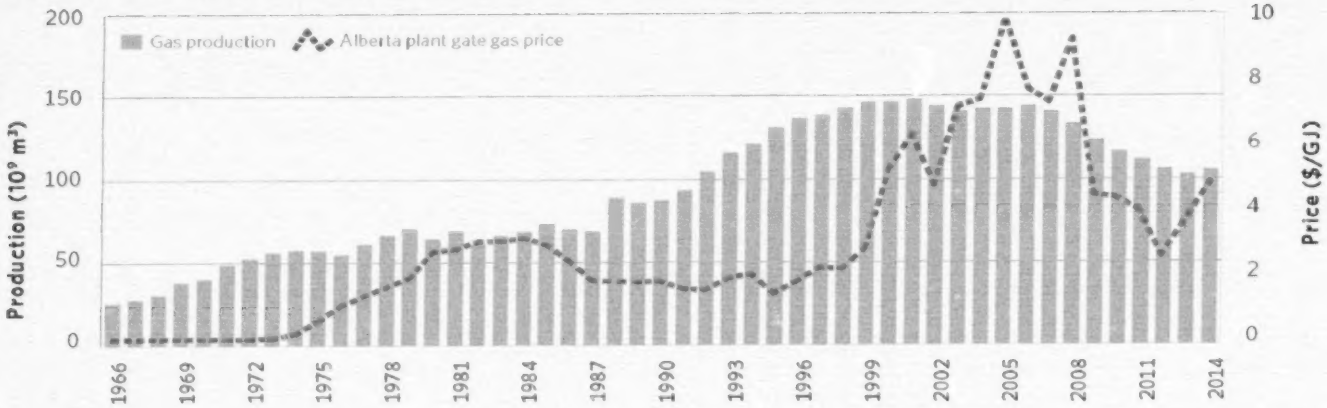
DRILLING ACTIVITY IN ALBERTA, 1966–2014



Source: Alberta Energy Regulator

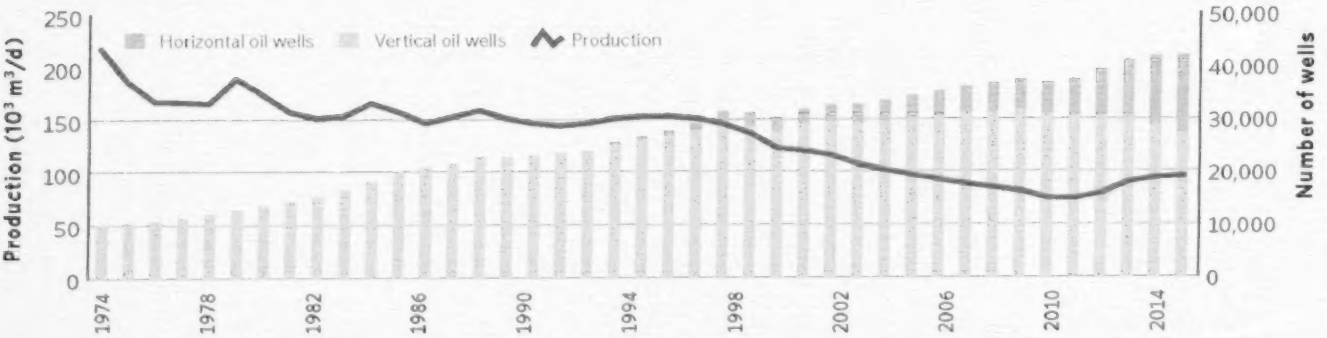
STATISTICS CONTINUED

ALBERTA MARKETABLE GAS PRODUCTION



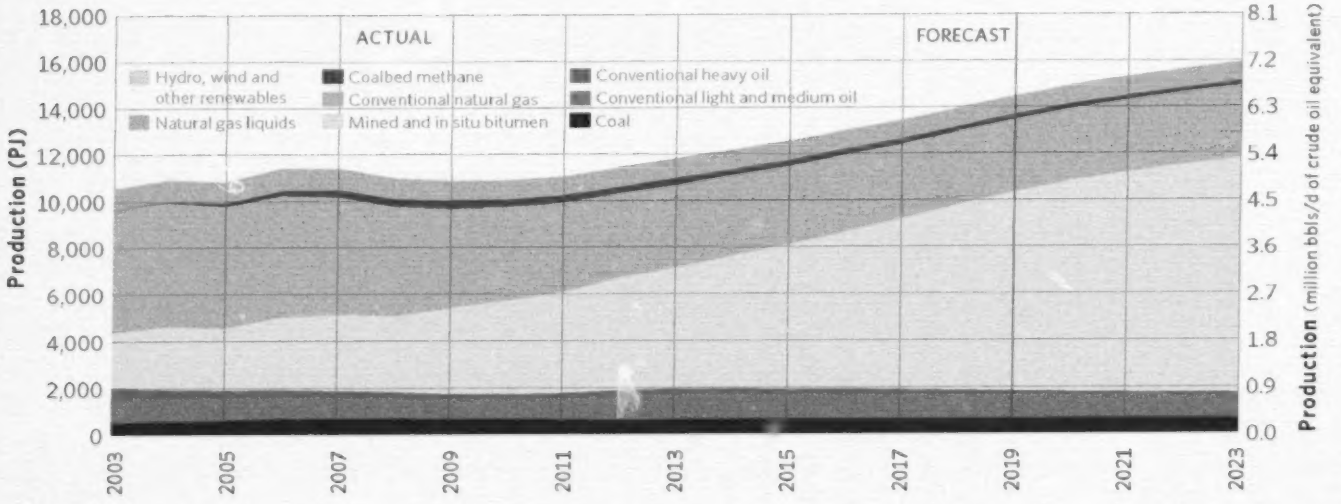
Source: Alberta Energy Regulator

ALBERTA CRUDE OIL PRODUCTION AND PRODUCING WELLS



Source: Alberta Energy Regulator

TOTAL PRIMARY ENERGY PRODUCTION IN ALBERTA



Source: Alberta Energy Regulator

THE **ENVIRONMENTAL** FILE

OIL PIPELINE APPROVALS COULD BE ASSISTED BY ALBERTA CLIMATE POLICY, SAYS ALBERTA ENVIRONMENT MINISTER

Alberta's new climate plan should help crude oil pipelines from Alberta to tidewater obtain regulatory approvals under new federal rules for greenhouse gas emissions announced January 27, says Alberta's environment and parks minister.

"Alberta's ability to access energy markets is crucial, not only for our province's energy industry, but for the economic future of Canada. We have made very little progress in that direction under the former federal government's rules," Shannon Phillips told a news conference.

The federal government announced that it will be delaying its decision on Kinder Morgan's proposed Trans Mountain expansion project to December 2016 from August 2016 and will be extending the total period for the National Energy Board review and subsequent government decision of TransCanada Corporation's Energy East pipeline to 27 months from the currently mandated 18 months.

However, the Alberta government will welcome the new undertakings if they can lead to a positive reception and decision, she said.

Phillips said her government expects its climate plan to become part of the greenhouse gas assessment to be included in future pipeline reviews. The price on carbon, future oil sands performance standards and the oil sands emission cap that offers an incentive for companies to reduce per-barrel emissions will all be taken into account, she suggested.

"All of those things working together, we know, have already reset the conversation about how Alberta develops its energy products...and [are] already having a positive effect in terms of our productive relationships with other provinces."

The Alberta government has also put into place incentives for electricity cogeneration and other items that will form part of the performance standards that will be developed over the course of 2016, said Phillips. "Those all feed into driving efficiencies and rewarding good behaviour, if you will, within the oil sands industry."

"I do believe that a process like this needs to have the confidence of Canadians and it is very clear...that confidence was slowly chipped away and eroded by previous governments, and anything that can rebuild that but also ensure that we get to a decision on a very important piece of energy infrastructure for this province and for this country is something that we welcome."

PRODUCERS AND REGULATOR WORKING TOWARD SUSTAINABLE WATER USE IN ALBERTA ENERGY SECTOR

Energy companies are slowly starting to collaborate and coordinate their water use efforts, with examples arising in the Fox Creek-area play-based regulatory pilot, says Michael Bevan, groundwater protection adviser, oil and gas branch, at the Alberta Energy Regulator (AER).

"There have been a couple of companies who have come in together to the AER with collaborative-type solutions that we are evaluating individually on their own merits. We are seeing a couple, but not a whole lot yet. I think that with the state of the industry right now, people are looking at their own operations—scaling back their own operations—and I don't know if they are at the point yet of seeking how to collaborate."

During a February 10 JWN Speaker Series event regarding how producers are working with regulators to ensure industry's future water use is sustainable, Bevan noted that one of the AER's goals is to see more collaboration on the water front.

"A lot of companies have neighbours, and sometimes they are able to share water," he said. "But maybe...some type of system could be facilitated with operators somehow grouping together and working together on water management. That is what we see as the future." ■

FOCUS ON THE **DUVERNAY**

PHOTO: SHUTTERSTOCK.COM

JOINT VENTURE FOCUSED ON THE DUVERNAY

Athabasca Oil Corporation and Murphy Oil Company have agreed to form a strategic joint venture to develop Kaybob-area Duvernay and Montney assets.

"We are excited to be partnering with an established shale operator, and this deal validates the technical work done by Athabasca on its volatile oil lands and prospectivity of the Duvernay play in general," Rob Broen, president and chief executive officer at Athabasca, told a January 28 morning conference call.

He added: "We now have a portfolio that will have the appropriate risk for our size, and retains significant operating position in both light and thermal oil. We have tremendous upside still in the Duvernay, and we couldn't be happier with the partner of Murphy Oil to develop the Duvernay."

According to the definitive agreement announced in late January, Murphy will acquire a 70 per cent operated working interest of Athabasca's production, acreage, infrastructure and facilities in the Greater Kaybob-area Duvernay lands and a 30 per cent non-operated working interest of liquids-rich Montney production, acreage, infrastructure and facilities in the Greater Placid area.

Kaybob-area assets include about 200,000 acres of prospective Duvernay land across the condensate-rich and volatile oil windows. December production within this area averaged 6,900 boe/d.

Broen said that the companies are working to establish a roadmap for future development that includes one-year and five-year budgets, minimum and maximum capital spending limits, scope of the development and a schedule to de-risk the plays.

He added that the joint venture with Murphy, which has drilled more than 700 wells in the Eagle Ford play in Texas, will leverage both partners' extensive shale play expertise and ensure capital is directed toward de-risking the volatile oil window in the Duvernay.

Broen said that Athabasca has significantly progressed its strategic objectives in the Duvernay, which include lowering well costs and delineation of the volatile oil window.

Recent drilling and completion costs have averaged less than $10 million per well with a step-change in drilling times and pad completion efficiencies. A two-well pad was brought onstream in the first quarter of 2016.

ENCANA'S DUVERNAY OUTPUT UP

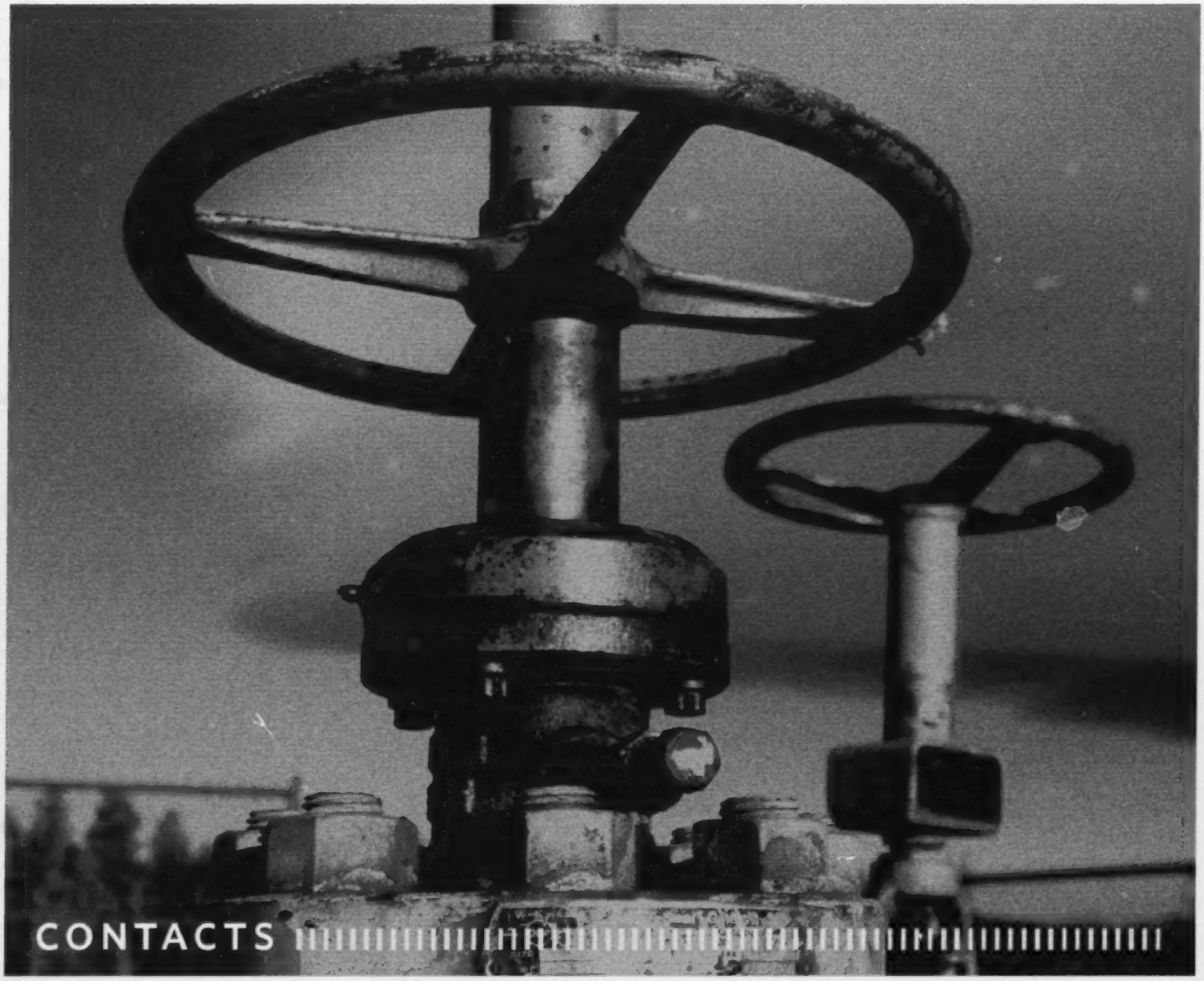
In the fourth quarter, Encana's production from the emerging Duvernay play climbed sharply from the third quarter.

"In the Duvernay, our focus has been on reducing well cost, cycle time and increasing production. Our approach [is] utilizing dual drilling rigs, dual frac crews, targeted laterals, high-intensity completions and our water infrastructure," said Michael McAllister, Encana's chief operating officer. "We hit record production levels in the Duvernay in Q4."

During the quarter, Duvernay oil and natural gas liquids output averaged 8,500 bbls/d, up from 4,900 bbls/d in the third quarter.

Duvernay gas production averaged 48 mmcf/d in the fourth quarter, up from 26 mmcf/d in the preceding quarter.

"Annual production in the Duvernay will grow significantly in 2016 as we bring the 10-29 plant online at the end of the first quarter. We plan to average two rigs in the play over the course of the year," McAllister told the conference call. ■



CONTACTS

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